

UK Patent Application GB 2 175 547 A

(43) Application published 3 Dec 1986

(21) Application No 8610320

(22) Date of filing 28 Apr 1986

(30) Priority data

(31) 8511117

(32) 1 May 1985

(33) GB

(51) INT CL⁴

B62D 63/06

(52) Domestic classification (Edition H):
B7B 378 TF2

(56) Documents cited

GB A 2010191

GB 1563275

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(58) Field of search

B7B

Selected US specifications from IPC sub-classes B62B
B62D

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(54) Folding trailer

(57) A trailer comprises a chassis having a base and a pair of wheels 23 to which front and rear panels may be fitted forming in effect a box-like trailer. A tow-bar can be added and telescopic extensions of both ends of the trailer.

The base frame 10 is in two parts 11 and 12 hinged along the line 13. A tow-bar 33 fits through brackets 34, 35 and 36 which holds the two parts of the base in the flat position shown. With the tow-bar removed the wheels can be folded inwardly and the two-part base folded round to form a box-like stowage for the wheels thus enabling the trailer to be stowed in a small space, as in Figure 7.

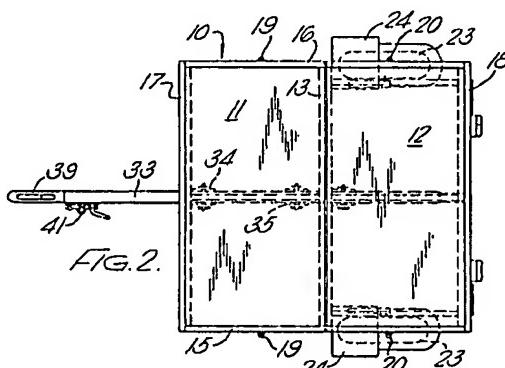


FIG. 2.

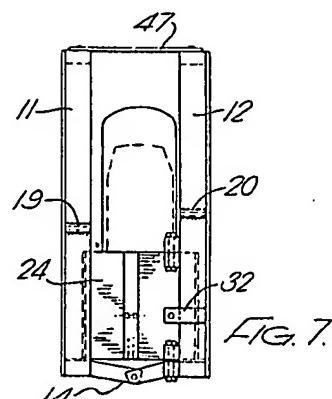


FIG. 7.

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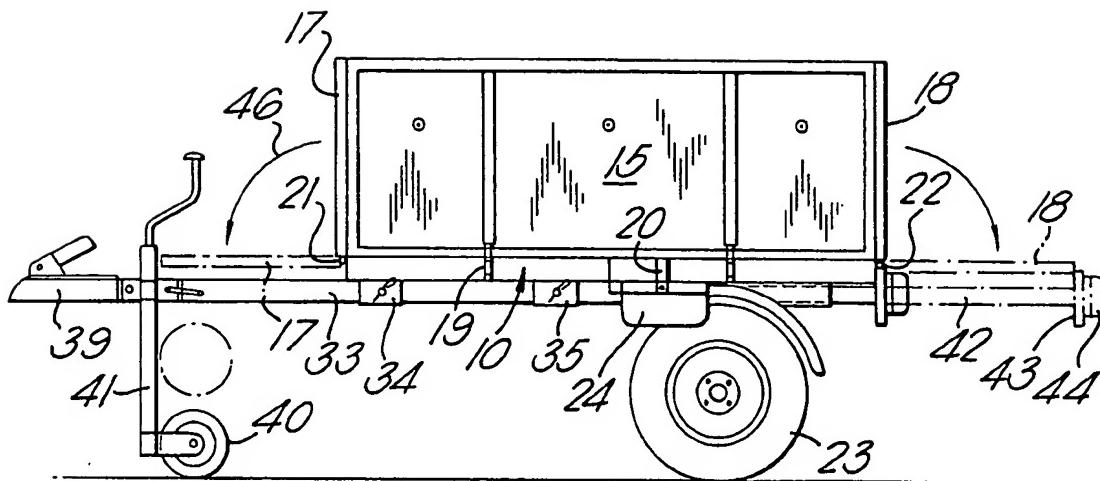


FIG. 1.

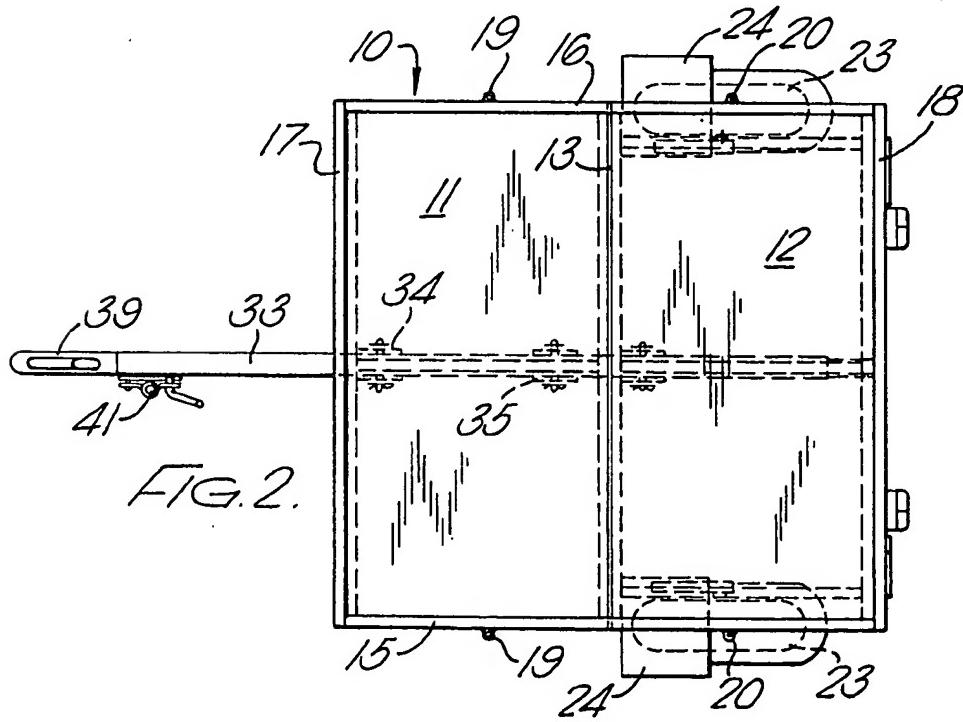


FIG. 2.

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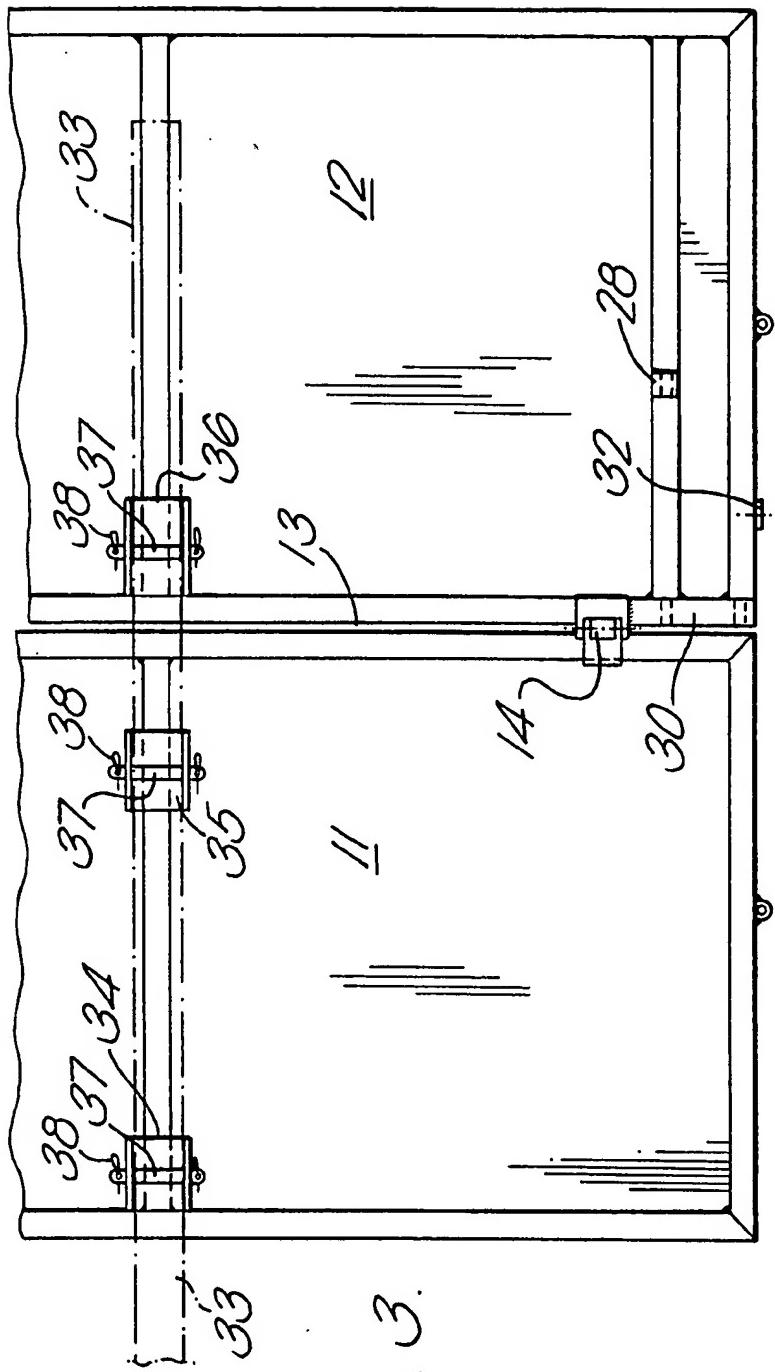
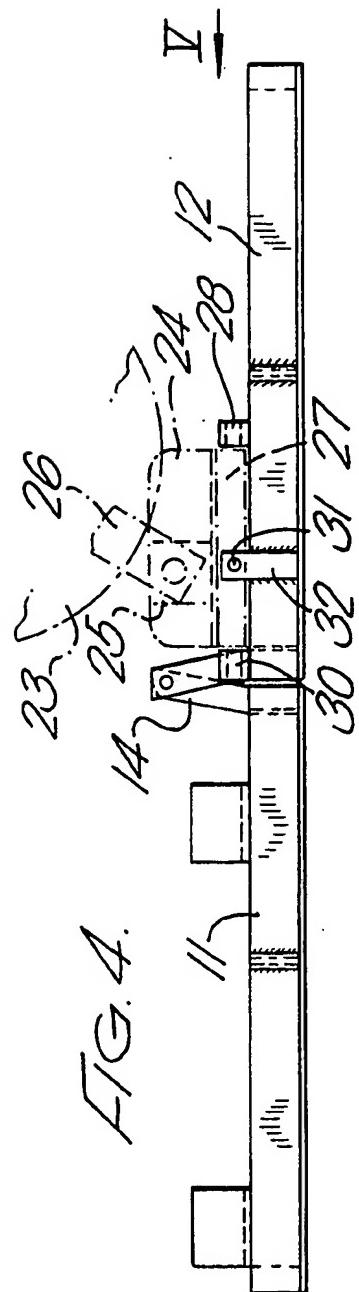
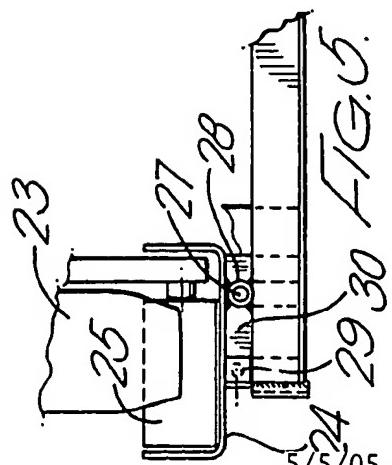


FIG. 3.



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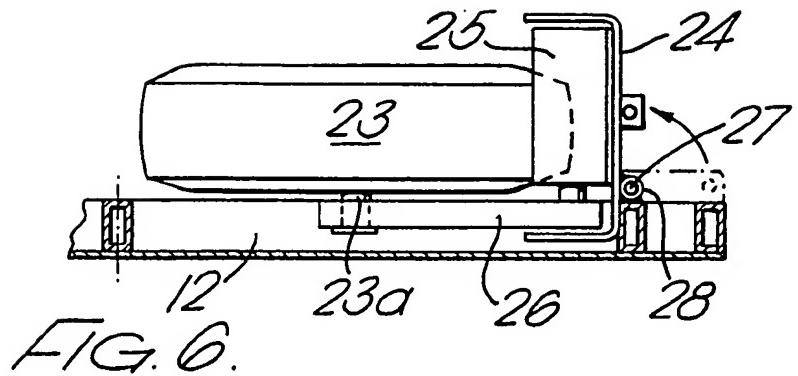


FIG. 6.

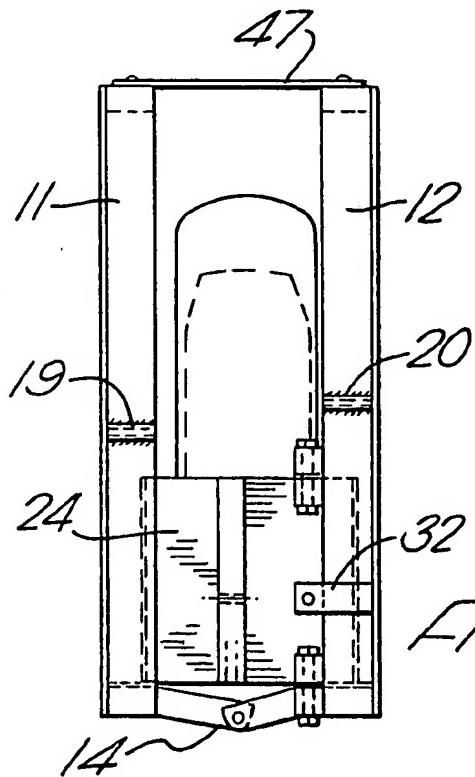


FIG. 7.

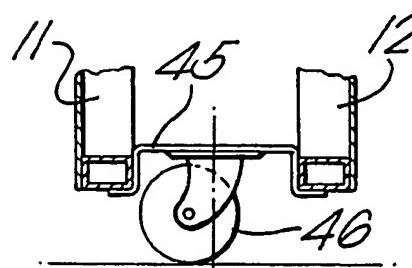


FIG. 8.

SPECIFICATION

Folding trailer

- 5 This invention relates to a folding trailer. Trailers are well known which comprise a wheeled chassis with a base on which side, front and rear panels may be fitted forming in effect a box with wheels for transporting goods.
- 10 Such trailers are useful vehicles particularly for small traders, builders, and for example for campers and other domestic purposes. One problem with such trailers is that they take up a fair amount of space when not in use and cannot easily be
- 15 stowed away.
- An object of the invention is to provide a folding trailer which may be folded to a fraction of its normal size making it possible to store it in an area where there may be only as little as one foot depth
- 20 but reasonable height and length available for storage. For example the trailer may be folded up and stored away in a garage alongside the garage wall without interfering with the normal access to the garage.
- 25 In accordance with the present invention a foldable trailer comprises a base, a removable tow-bar, and a pair of road wheels, the base being in two hinged parts and each wheel being carried in a hinged housing so that the wheels may be folded
- 30 inwardly to lie flat on one base part and then the other base part may be folded over onto the wheels to form a box-like structure so that the wheels lie inside the box-like structure for ease of storage.
- 35 Preferably the removable tow-bar is adapted to extend through aligned brackets on the undersides of both parts of the base so as to retain the base rigidly in its flat open configuration, means being provided to retain the tow bar in place.
- 40 There may be a telescopic end extension piece arranged to support a hinged end wall of the trailer when the end wall is lowered to a horizontal position so as to form an extension to the flat trailer base. In addition the front of the trailer adjacent
- 45 the tow-bar may be adapted so that the front end wall may also be lowered to rest on the tow-bar and form an extension of the flat base.
- Thus by extending both ends of the flat base and removing the side walls of the trailer a flat area
- 50 which could be of the order of 8' by 4' is produced which is particularly suitable for carrying large boards such as boards of plywood, plaster board etc. as employed by builders.
- When the wheels have been folded to lie in-
- 55 wardly on one half of the base and the other base part has been folded over onto the wheels the box-like assembly formed may be supported on castor wheels so as to facilitate its movement to a storage position. The castor wheels may be provided
- 60 in the form of separate attachments which fit onto the box-like structure once it has been folded up.
- The end walls and side walls may be attached by hinges or pegs but if attached by hinges they can be so arranged that they can easily be removed
- 65 from the hinges so that when the trailer is to be

stored the end and side walls can simply be removed and stored on top of the box-like structure formed by the base and wheels.

Preferably the trailer is provided with an adjustable jockey wheel as is conventional.

The number plate and rear lights of the trailer may be supported on the telescopic extension referred to above, if fitted, so that when the telescopic extension is pulled out the number plate and rear lights move to the rear of the extended trailer.

The flat base part is preferably hinged transversely and the hinges are preferably arranged so as to provide a reasonable depth to the box-like structure to enable the wheels to be completely stored inside the box-like structure in the folded position of the trailer.

In the accompanying drawings;

Figure 1 is a side elevation of a foldable trailer embodying the present invention:

85 *Figure 2* is a plan view of the same trailer;
Figure 3 is an inverted partial plan view;
Figure 4 is a side elevation of the parts shown in

Figure 3;
Figure 5 is a partial end elevation in the direction

90 of the arrow VI shown in *Figure 4*;
Figure 6 is a partial section showing a wheel in its folded position;

Figure 7 shows the wheel and base folded to form a box-like structure; and

95 *Figure 8* is a scrap section through the lower part of *Figure 7* showing the way in which castors may be attached to the box-like structure.

The foldable trailer shown in Figures 1 to 6 comprises a base frame 10 in two parts comprising a front base part 11 and a rear base part 12 which are hinged along the line 13 by hinges 14 which lie below the base and may be seen in *Figure 4* in which the base is inverted and in *Figure 7* in which the base has been folded up with the wheels inside.

100 The trailer has sides 15 and 16, a front end 17 and a rear end 18. The sides 15 and 16 are attached to the trailer by pin and slot connections 19 and 20, the front and rear ends 17 and 18 are attached to the trailer base by easily removable

110 hinge connections 21, 22. The trailer is supported on two wheels 23 each of which is carried in a suspension unit 24 which comprises a damper 25 and a suspension arm 26 to which the wheel 23 is attached by a stub axle 23A and conventional bearing.

115 Each of the wheel suspension units 24 is hinged to the rear base part 12 with the aid of a hinge pin 27 which extends through hinge blocks 28. The

120 wheel suspension units are locked in position normally by locking bolts 29 which extend through lugs 30 on the base portion 12. Alternatively the wheel suspension units may be held in place by bolts 31 extending through brackets 32, one on each side of the rear base part 12.

125 A tow-bar 33 is provided which passes through tow-bar guides 34, 35 and 36 and is held in place by locking bars 37 secured by quick release 'R' clips 38.

130 The tow-bar 33 carries a conventional tow hitch

39 and a jockey wheel 40 on a standard telescopic arm 41.

At the rear of the base is a telescopic extension 42 which carries a number plate 43 and rear lights 5 44. The purpose of this telescopic extension is to enable the base to be extended by lowering the hinge rear end 18 to rest on the telescopic extension 42. Similarly there may be a telescopic extension 45 at the front of the trailer so that the front 10 end 17 may be lowered as shown by the arrow 46 to a horizontal position to extend the base in that direction. Alternatively the front end may be lowered so as to rest on the tow-bar.

With the sides removed and with the front end 15 and rear end dropped to a horizontal position the area of the base is almost doubled resulting in a base which may be for instance about 8' by 4' to enable large boards such as plasterboards etc. to be carried.

20 When it is desired to fold up the trailer for storage the sides and front and rear ends are first removed and then the tow-bar is lifted up and the whole trailer turned through 180° so as to lay it flat on the ground. The tow-bar can then be removed 25 from the tow-bar guides and the base will then lie flat on the ground as shown in Figures 3 and 4 with the wheels upstanding.

The bolts securing the wheel suspension units are then removed so that the wheel suspension 30 units may be turned bodily about their hinge pins so as to lay flat on the inverted base. This has the effect of moving the suspension units and wheels and suspension arms etc. from the position shown in Figure 5 to that shown in Figure 6.

35 The base parts 11 and 12 may then be folded about the hinges 14 and the whole assembly stood upright as shown in Figure 7.

Brackets 45 carrying castor wheels 46 may then be inserted between the lower edges of the base 40 parts as shown in Figure 8 so that the compact assembly of base and wheels may be moved along on the castor wheels to be stored.

Before doing this a locking strip 47 is attached across the top edges of the base parts as seen in 45 Figure 7 so as to prevent the assembly falling apart.

The remaining parts may then be stored in and on the compact assembly of the base parts and 50 wheels. For instance a telescopic arm may be dropped inside the base parts and the front and rear ends mounted on top of the base parts in the position shown in Figure 7 for ease of storage.

Thus the whole trailer and all its parts may be stored in relatively small space particularly narrow 55 in width as seen in Figure 7 so that it may be stored in a garage or a shed and does not take up more than a quarter of the room that it would take up if it were dismantled.

In an alternative arrangement the tow-bar 33 60 may be shortened so that it ends at the third tow-bar guide 36. This facilitates storage of the tow-bar. The telescopic extension 42 may then be supported in a separate guide tube or box-section member located at the rear end of the underside of 65 the base post 12.

CLAIMS

1. A folding towable trailer comprising a base, a removable tow-bar, and a pair of road wheels, the base being in two hinged parts and each wheel being carried in a hinged housing so that the wheels may be folded inwardly to lie flat on one base part and then the other base part may be folded over onto the wheels to form a box-like structure so that the wheels lie inside the box-like structure for ease of storage.
2. A trailer according to claim 1 and in which a removable tow-bar is adapted to extend through aligned brackets on the undersides of both parts of the base so as to retain the base rigidly in its flat open configuration, means being provided to retain the tow-bar in place.
3. A trailer according to claim 1 or claim 2 and in which there are hinged end walls and/or side walls which may be removed and rearranged to form extensions of the box.
4. A trailer according to claim 1 or claim 2 and in which there is a telescopic end extension piece adapted to support a hinged end wall of the trailer when the end wall is lowered to a horizontal position to form an extension to the flat trailer base.
5. A trailer according to any preceding claim equipped with additional castor wheels to facilitate movement of the trailer when in its folded position.
6. A trailer according to any preceding claim and in which there are four upstanding walls, hinged or attached by pegs which locate in holes in the base so that all four walls are easily removable when the trailer is collapsed.
7. A trailer according to any preceding claim and in which the tow-bar is provided with a removable and adjustable jockey wheel.
8. A trailer substantially as hereinbefore particularly described and as shown in the accompanying drawings.

Printed in the UK for HMSO, D8818935, 10/86, 7102.
Published by The Patent Office, 25 Southampton Buildings, London, WC2A 1AY, from which copies may be obtained.